it is still sufficiently bright for observation when viewed with our larger telescopes; and, as far as I am aware, there are no published ephemerides later than March 27. To remedy this want, I subjoin places calculated from the elements of Dr. Palisa for Greenwich mean midnight for the period during which the moon will be absent.

	R.A.			Decl.		Log
	h.	m.	s.	°	′	
April 13	2	52	34	+36	54·6	0·0183
,, 15	2	51	2	+37	3·2	0·0222
,, 17	2	49	36	+37	12·3	0·0265
,, 19	2	48	12	+37	20·6	0·0311
,, 21	2	46	52	+37	28·6	0·0360
,, 23	2	45	35	+37	36·4	0·0412

JOHN I. PLUMMER

Orwell Park Observatory, April 11

Sunspots

IN the summary in regard to solar activity in 1886, published in NATURE for March 10, p. 445, it is stated that, during the period from October 31 to December 12, "on six days only out of the forty-two could there be discovered on the sun any trace even of a spot, and on those days only one tiny spot could be seen." As observed in this locality, there were formed, in the midst of the faculæ which came into view on November 14, one spot on November 15 and two spots on November 16; all having disappeared on November 18, when observation again became possible. On December 8 the first of a group of spots which made a complete transit across the sun's surface appeared. On December 9 this group consisted of three spots, which persisted until the 13th at least, gradually increasing in size. A period of sunspot minimum is best adapted in certain regards to the study of the relations of solar outbursts to magnetic and auroral phenomena; hence precision at such times, in reference to details of the character here indicated, is not unimportant.

Lyons, N.Y., March 30 M. A. VEEDER

Ozone

MY attention has been drawn to a letter in your issue of January 13 (p. 248), respecting the production of ozonised air for respiration in pulmonary complaints. I beg to inform "W. H." that there is at present no convenient electrical apparatus devised for use in a room, that would electrify the air with sufficient power to be of much service. A simple plan for obtaining ozone in small quantities is to mix very gradually three parts of strong sulphuric acid with two parts of permanganate of potash in a jam-pot, and place the vessel under the bed. Ozone will be given off from this mixture for some weeks.

I should be glad to hear the experiences of "W. H." inhaling ozonised air "just sensible to the smell," as I am of opinion that this strength of ozone is rather too great.

Your correspondent is misled in supposing that the Engadine hotels possess appliances for ozonising the air of corridors, &c. It is only the Maloja Kursaal which has adopted my device for this purpose. The electric current used is taken off from one of the dynamos used for lighting. A short description of the plan is given in the third edition of my "Alpine Winter," p. 84.

Upper Engadine A. TUCKER WISE

Electrical Discharges in the Doldrums

I QUITE agree with the Hon. Ralph Abercromby as to the continuous electrical discharges in the doldrums; so is there a continuous discharge of rain. I do not, however, agree with him in thinking that the electrical discharges are in any way directly connected with earth-currents. I should say they are due to electrical discharges on the top of the shower clouds, unaccompanied by thunder. It would be interesting to know if travellers in the centres of Africa and South America have observed this phenomenon there.

DAVID WILSON-BARKER

Green Light at Sunrise and Sunset

MR. R. T. OMOND, of the Ben Nevis Observatory, in NATURE of February 24, p. 391, asks whether the cause of the green colour at sunset at sea is the sun shining *through* the water? This cannot be the cause, for I have many times observed this colour at sunrise behind the mountains Madonie or Copo Zaferano, which, from the Observatory, appear higher on the sea horizon than the sun's disk. That is to say, the phenomenon occurs when, for the observer, the sun is entirely above the marine horizon, and no part of the disk can shine through the water. A. RICCÒ

Palermo Observatory

[This is a well known and obvious effect of atmospheric refraction.—ED.]

A Sparrow chasing Pigeons

"E. A. C." inquires in NATURE of last week (p. 536), whether any of your readers have observed the sparrow chasing pigeons. This habit of the sparrow is very common; I have myself often observed it, and I apprehend that few who keep pigeons have not frequently seen such attacks. The pugnacity of the sparrow did not appear to me to be the result of any previous quarrel with the pigeon, as I never saw the former attack the latter except on the wing, and always from underneath.

Chirbury, Beckenham, Kent, April 12 J. JENNER WEIR

A Question for Chemists

Is it known that a mixture of glycerine and permanganate of potassium will take fire spontaneously immediately after being mixed? If so, I should be glad of any reference to the fact.

Bradford WM. WEST

THE PARIS ASTRONOMICAL CONGRESS

THE International Congress called together by the French Government to take steps to obtain a photographic chart of the heavens was opened on Saturday at the Observatory of Paris, and, from the information which has reached us so far, it would seem that its labours are likely to have a result of the highest importance for the science of this and succeeding centuries. The following Directors of Observatories are already in Paris, or are expected: if half of them really come, there will be such a meeting of astronomers as has rarely been seen:—

Baillaud, Toulouse Observatory
Bakhuyzen, Leiden
Beuf, La Plata
Christie, Greenwich
Cruls, Rio de Janeiro
Donner, Helsingfors
Dunér, Lund
Folie, Brussels
Gill, Cape Town
Gyldèn, Stockholm
Krueger, Kiel
Oom, Lisbon
Perry, Stonyhurst
Peters, Clinton (U.S.A.)
Pujazon, San Fernando
Rayet, Bordeaux
Russell, Sydney
Schoenfeld, Bonn
Struve, Pulkowa
Tacchini, Rome
Thiele, Copenhagen
Trépied, Algiers
Vogel, Potsdam
Weiss, Vienna

Besides these Directors of Observatories, and of course all the astronomical members of the Institute, there are other astronomers, such as Messrs. Common and Roberts from our own country, and Messrs. Lohse (from Germany), Winterhalter (from Washington), and Hasselberg (from Pulkowa), whose presence is most important.

The French Government, the Academy of Sciences (with Dr. Janssen as President), and Admiral Mouchez (the Director of the National Observatory of Paris), seem to have done all in their power to facilitate the labours, and even to provide for the comfort, of the various delegates and others representing the various nationalities; and at the opening ceremony the manner in which the Institute and Government are doing all they can was evidenced by the fact that the address which was delivered by M. Bertrand, the eminent mathematician, on behalf of

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the Academy of Sciences, was followed by another, made by M. Flourens, the Minister of Foreign Affairs.

They certainly manage these things better in France! Fancy a scientific meeting at Greenwich Observatory, addressed by the head of the English Foreign Office!

What M. Flourens said had better be given in his own words:—

Messieurs,—

J'ai l'honneur de vous souhaiter la bienvenue au nom de la France, qui vous offre ici sa cordiale hospitalité.

Je me félicite que cette mission me soit échue de vous complimenter au nom du gouvernement de la République, de vous remercier d'avoir accepté les invitations qui vous ont été adressées par l'éminent et sympathique directeur de notre Observatoire.

C'est une grande œuvre que celle que vous allez entreprendre, et, grâce aux lumières que vous nous apportez de tous les points du globe, mener à bonne fin. Dans la poursuite de cette œuvre, vous aurez, je n'en doute pas, l'appui de tous les gouvernements, qui sont animés aujourd'hui d'une noble émulation pour le développement de la science. En tout cas, le concours du gouvernement de la République française, au nom de laquelle j'ai l'honneur de parler, vous est dès à présent acquis.

Vous allez, dans une féconde et cordiale entente, jeter les bases de l'exécution d'une carte du ciel dont la précision dépassera de beaucoup non seulement tout ce que l'on avait réalisé, mais encore tout ce que l'on avait osé rêver jusqu'à ce jour. Par une merveilleuse application de la photographie, de cet art si riche en résultats imprévus, vous allez diriger l'œil humain dans des profondeurs où, à l'aide des plus puissants télescopes, on n'avait pas cru possible de le faire pénétrer. Le nombre des étoiles inconnues jusqu'ici, dont l'existence sera ainsi révélée, est incalculable.

Ce sera pour votre nom, messieurs, une gloire éternelle d'avoir apporté votre précieuse collaboration à l'inauguration de cette grande entreprise, et le jour de l'ouverture de ce congrès marquera dans les annales de la science humaine.

Une ère nouvelle s'ouvre pour l'astronomie physique comme pour l'astronomie mathématique, qui vont avoir à leur disposition un moyen d'investigation, de contrôle, de précision qui étendra dans une proportion indéfinie la fécondité de leurs recherches. Vous allez écrire la première page authentique des transformations et des modifications de la matière cosmique, c'est-à-dire l'histoire de l'univers lui-même.

Je voudrais complimenter, par leurs noms et par leurs œuvres, chacun des savants illustres qui sont réunis dans cette enceinte. Mais j'abuserais des précieux et trop courts instants de notre réunion. Nos hôtes trouveront bon que je les honore tous en la personne de leur doyen, de l'illustre M. Struve, dont le nom est si sympathique à la France et dont on fêtait naguère le vingt-cinquième anniversaire comme directeur du célèbre observatoire de Poulkova.

Agréez, messieurs, avec mes vœux les plus sincères pour la réussite de vos efforts, la nouvelle assurance du concours du gouvernement de la République.

Prof. O. von Struve replied to this address in a short and impressive speech, and the Conference proceeded to elect officers.

Admiral Mouchez, the Director of the Observatory, was elected Honorary President, and Prof. O. von Struve Acting President. As Vice-Presidents, Messrs. Auwers, Christie, and Fizeau were elected; as Secretaries, Messrs. Tisserand and Bakhuyzen, assisted by Dunér and Trépied.

The Conference then proceeded to pass the following resolutions:—

(1) The progress realised in astronomical photography renders it absolutely necessary that the astronomers of the present century should undertake a conjoint photographic record of the heavens.

(2) This work shall be undertaken at certain stations to be selected, and with instruments identical in all essential points.

(3) The principal objects sought to be attained shall be:—

(*a*) To record the general state of the heavens at the present time by obtaining data which will enable us to determine the position and brilliancy of all the stars down to a certain magnitude, to be hereafter agreed on, with the greatest precision possible; the magnitudes to be expressed according to some photographic standard to be hereafter determined.

(*b*) To fix upon the best means to utilise at the present time the various data furnished by photographic processes.

After these resolutions were passed, the Conference proceeded to appoint a Committee of nineteen members to consider the kind of instrument to be employed, and the lowest magnitude of star it will be necessary to register. The Committee appointed consists of the following astronomers:—MM. Auwers, Bakhuyzen, Christie, Common, Dunér, Fizeau, Gill, Paul Henry, Janssen, Kapteyn, Lœwy, Rayet, Roberts, Peters, O. von Struve, Tacchini, Thiele, Vogel, and Weiss. When this Committee has brought up its Report, the other questions will be considered by a number of Sections, to be appointed to consider and report upon them to the Conference.

Hospitality is not lacking to make the labours of the Conference as light as possible. Admiral Mouchez, who gave a *soirée* on the evening of the 19th, gives a banquet on the 24th. The astronomers are to be received by the President of the Republic, and also at the Théâtre Français by the members of the Institute, on Saturday. There is also to be a ball at the Hôtel Continental, given by Le Comité des Amis de Science.

We warmly congratulate French men of science upon the magnificent results obtained by their countrymen the Brothers Henry, which have been among the causes that have brought the Conference together. If all goes well, the work of the Conference will mark an epoch in the history of astronomy.

HOMERIC ASTRONOMY

I.

THE Homeric ideas regarding the heavenly bodies were of the simplest description. They stood, in fact, very much on the same level with those entertained by the North American Indians, when first brought into European contact. What knowledge there was in them was of that "broken" kind which (in Bacon's phrase) is made up of wonder. Fragments of observation had not even begun to be pieced in one with the other, and so fitted, ill or well, into a whole. In other words, there was no faintest dawning of a celestial science.

But surely, it may be urged, a poet is not bound to be an astronomer. Why should it be assumed that the author (or authors) of the "Iliad" and "Odyssey" possessed information co-extensive on all points with that of his fellow-countrymen? His profession was not science, but song. The argument, however, implies a reflecting backward of the present upon the past. Among unsophisticated peoples, specialists, unless in the matter of drugs or spells, do not exist. The scanty stock of gathered knowledge is held, it might be said, in common. The property of one is the property of all.

More especially of the poet. His power over his hearers depends upon his presenting vividly what they already perceive dimly. It was part of the poetical faculty of the Ithacan bard Phemius that he "knew the works of gods and men" ("Od.," i. 338). His special function was to render them famous by his song. What he had heard

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